Region 3 GPRA Baseline RCRA Corrective Action Facility

Occidental Chemical Company

301 West Dupont Avenue
Belle, WV 25015
Congressional District 2
EPA ID #: WVD005010277
Last Updated 6/28/2005

Current Progress at Site

In September 1992, the Occidental Chemical Company (OxyChem) and Environmental Protection Agency (EPA) entered into an Administrative Order on Consent to conduct a Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) and a Corrective Measures Study (CMS) and to perform Interim Measures (IMs), as necessary, at the Facility. The RFI was implemented in two phases: The purpose of Phase I, which was completed in July 1998, was to evaluate whether soil and groundwater quality was impacted by the solid waste management units located on facility property. Phase I field work included extensive surface, subsurface soil and groundwater sampling, aquifer testing, geophysical studies and collection of sediment and surface water samples. The results of Phase I work indicated that there are two broad source areas, the Production Area and Area 7. The Phase II RFI was designed to expand on the Phase I RFI work by further investigating soil and groundwater quality associated with these sources. In addition, Phase II evaluated the potential ecological impact from releases at the site, and included other data collection activities, such as additional surface soil analysis, necessary for the completion of the RFI. Phase II work was initiated in the spring of 1999 and completed by the summer of 2000. The potential human health and ecological risks posed by the site were evaluated for various exposure scenarios. This evaluation was completed in 2003 and EPA approved the Final RFI in February 2004. EPA also approved the Human Health Indicator in 2004.

Due to the site's complexity, EPA and OxyChem decided that the best path forward for the facility would be to implement IMs prior to selecting a final remedy. OxyChem is currently implementing an in-situ enhanced bioremediation technology in the former plant production area (the Production Source Area). Numerous wells introduce a dilute molasses solution into the aquifer in the Production Source Area. The molasses provides a food source to indigenous microbes that can biodegrade the primary site contaminants. To facilitate distribution of the molasses solution, OxyChem enhanced permeability of the subsurface through hydro-fracturing. This IM will be implemented over a four-year period with periodic treatments and continuous assessments / optimizations.

In the summer of 2004, OxyChem completed an extensive DNAPL characterization effort in Area 7, an parcel of the site located adjacent to the confluence of Reynolds Branch and the Kanawha River. This characterization utilized a cone penetrometer with an ultraviolet induced fluorescence module. This tool allowed real-time collection of geologic characteristics and the

extent of DNAPL in the subsurface. A bench-scale test of In-Situ Chemical Oxidation (ISCO) was completed in the fall of 2004, which indicated that this technology would be ineffective in Area 7. Based on the DNAPL characterization and the results of the ISCO bench-scale test, OxyChem plans to install a sheet pile wall around the DNAPL and associated contaminated groundwater in Area 7. This proposed barrier will reduce the flux of contaminants to the Kanawah River. Completion of the wall is planned for the fall of 2005.

Site Description

The OxyChem facility is located in Belle, West Virginia, approximately 15 miles southeast of Charleston, West Virginia, on a 23-acre site adjacent to the Kanawha River. The Belle Facility is located in a mixed industrial/residential area, which includes the DuPont Belle plant located immediately adjacent to the site's northern property boundary. Chemical production operations began at the site in 1920 by Belle Alkali Company and continued through a succession of owners and tenants until OxyChem purchased the facility in 1986. OxyChem manufactured multi-product chloromethanes from chlorine until the plant was shutdown in October 1994. All process equipment and buildings have been taken down and removed from the site.

Site Responsibility

RCRA Corrective Action activities at this facility are being conducted under an EPA Section 3008(h) Corrective Action Order.

Contaminants

Volatile organic compounds are the main constituents found in the site's soil and groundwater. These compounds primarily consist of methylene chloride, chloroform, and carbon tetrachloride. Semi-volatile organic compounds and metals were also detected.

Community Interaction

OxyChem is actively involved in the Community Action Committee established jointly by DuPont and OxyChem to address citizen's concerns about the site safety, health and environmental performance and review related topics. The Committee is composed of citizens from neighboring communities and plant personnel. Programs like the RFI are typically reviewed in the team's monthly meetings. OxyChem representatives attend these meetings and share pertinent information about the activities at the site. EPA provides periodic updates to the group on the status of the cleanup.

Institutional Controls

Institutional Controls have not been implemented at this site. However, they will be implemented as part of the final remedy.

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For more information about EPA's corrective action webpage, including Environmental Indicators, please visit our site at: www.epa.gov/reg3wcmd/correctiveaction.htm.